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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/695,790

10/30/2003

Masahiro Sakakibara

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03/18/2008

OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C.
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ALEXANDRIA, VA 22314

EXAMINER

ANDERSON, MICHAEL J

ART UNIT

PAPER NUMBER

3767

NOTIFICATION DATE

DELIVERY MODE

03/18/2008

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/695,790	Applicant(s) SAKAKIBARA ET AL.	
	Examiner MICHAEL J. ANDERSON	Art Unit 3767	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 October 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 15-19 and 24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 15-19 and 24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 15-17 and 24 are rejected under 35 U.S.C. 102(e) as being anticipated by Ford (USPN 6,551,277).

With regards to claim 15, Ford discloses (figures 1-4, columns 3 and 4) a liquid injection system comprising; a liquid syringe having a cylinder with a cylinder flange disposed on and around an end thereof and a piston slidably inserted in said cylinder and having a piston flange disposed on and around an end thereof; and a liquid injector for holding and moving at least said cylinder flange and said piston flange relatively to each other; said liquid injector comprising a cylinder gripping mechanism for gripping said cylinder such that said cylinder has a longitudinal direction oriented forwardly and rearwardly, a piston pusher supported slidably in forward and rearward directions for pushing said piston at least forwardly, a pair of engaging claws laterally openably and closably mounted on said piston pusher for individually engaging left and right edges of a front face of said piston flange, and gripping detecting means for detecting when said piston flange is gripped by said engaging claws; wherein said gripping detecting means

comprises means for detecting when said engaging claws are opened from an initial closed position into opposite sides and then closed.

With regards to claim 16, Ford discloses (figures 1-4, columns 3 and 4) a liquid injection system according to claim 15, and further discloses, wherein said gripping detecting means comprises means positioned on an outer surface of said piston pusher for detecting when said piston flange is pressed by an inner surface of each of said engaging claws.

With regards to claim 17, Ford discloses (figures 1-4, columns 3 and 4) a liquid injection system according to claim 15, and further discloses, wherein said gripping detecting means comprises means positioned outside of said piston pusher for detecting the pressure applied by each of said engaging claws which are opened.

With regards to claim 24, Ford discloses (figures 1-4, columns 3 and 4) a liquid injection system comprising; a liquid injector for injecting a liquid from a liquid syringe having a cylinder with a cylinder flange disposed on and around an end thereof and a piston slidably inserted in said cylinder and having a piston flange disposed on and around an end thereof, said liquid injector being arranged to hold and move at least said cylinder flange and said piston flange relatively to each other, said liquid injector comprising a cylinder gripping mechanism for gripping said cylinder such that said cylinder has a longitudinal direction oriented forwardly and rearwardly; piston pusher supported slidably in forward and rearward directions for pushing said piston at least forwardly; a pair of engaging claws laterally openably and closably mounted on said piston pusher for individually engaging left and right edges of a front face of said piston

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flange; and gripping detecting means for detecting when said piston flange is gripped by said engaging claws wherein said gripping detecting means comprises means for detecting when said engaging claws are opened from an initial closed position into opposite sides and then closed.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was

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not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ford in view of Krakinowski (USPN 3,584,162).

With regards to claim 18, Ford discloses (figures 1-4, columns 3 and 4) a liquid injection system according to claim 17. However, Ford does not disclose, wherein said gripping detecting means comprises a number of sheet-like touch switches mounted in succession on a tape. Krakinowski teaches a detecting means comprises a number of sheet-like touch switches mounted in succession on a tape using a plunger type actuator. Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the injector plunger detector system of Ford with the Krakinowski detecting means comprises a number of sheet-like touch switches mounted in succession on a tape using a plunger type actuator for automatically detecting the plunger of a syringe.

Claim 19 and is rejected under 35 U.S.C. 103(a) as being unpatentable over Ford in view of Stringer (US patent No. 6,064,629) (Stringer).

With regard to claim 19 Ford (and in view of Stringer) discloses the liquid injection system as for claim 15, however, Ford does not disclose, wherein said detecting device comprises various distance measuring components measuring the distance up to the rear face of said piston. Stringer teaches ultrasonic, optical, load cell, LED, reflective, magnetic and capacitive distance and other measurement sensors

(column 2, lines 46-67; column 3, lines 1-20 column 6, lines 19-45). Therefore, it would have been an obvious design choice to a person of ordinary skill in the art at the time the invention was made to modify Ford as taught by Stringer to provide a syringe piston position detection system.

Response to Amendment

The present communication responds to the Amendment of 10/17/2007. By this communication, claims 1-14, 20-23 and 25-32 were canceled and claims 15, 17 and 24 were amended. The amendments did not add new matter. Claims 15-19 and 24 are pending. The rejection(s) are as stated.

Response to Arguments

Applicant's arguments, see pages 1 and 2, filed 10/17/2007, with respect to the rejection(s) of claim(s) 15-19 and 24 under 101, 102(b) or 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Ford.

Conclusion

References considered pertinent to Applicants' disclosure are listed on form PTO-892. All references listed on form PTO-892 are cited in their entirety.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MICHAEL J. ANDERSON whose telephone number is (571)272-2764. The examiner can normally be reached on M-F 6:30 am to 3:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kevin C. Sirmons can be reached on (571) 272-4965. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Michael J Anderson/
Examiner
Art Unit 3767

MJA
3/2/08
/Kevin C. Sirmons/
Supervisory Patent Examiner, Art Unit 3767